San Francisco Bay Conservation and Development Commission
455 Golden Gate Avenue, Suite 10600, San Francisco, California 94102 tel 415 352 3600 fax 415 352 3606

October 30, 2015

TO: Commissioners and Alternates

FROM: Lawrence J. Goldzband, Executive Director (415/352-3653 larry.goldzband@bcdc.ca.gov)
Joe LaClair, Chief Planner (415/352-3656 joe.laclair@bcdc.ca.gov)

SUBJECT: **Commission Briefing on the California WaterFix**
(For Commission consideration on November 5, 2015)

Summary

The Commission will receive a briefing on the WaterFix from DWR Program Manager Cassandra Enos-Nobriga. The California WaterFix is the new proposal for addressing reliability of the state and federal water projects developed by the California Department of Water Resources (DWR) and US Bureau of Reclamation (USBR). The WaterFix alternative would construct a new 9,000 cubic feet per second (cfs) point of diversion on the Sacramento River near Courtland, Sacramento County and route the diverted water under the Delta in two newly constructed tunnels to the existing State Water Project (SWP) and federal Central Valley Project (CVP) pumping facilities in Tracy, San Joaquin County.

The California WaterFix is referred to as Alternative 4A in the state and federal CEQA and NEPA documents for the project and is the preferred alternative. The WaterFix alternative would not create a Habitat Conservation/Natural Communities Conservation Plan for the Delta as proposed in the former Bay Delta Conservation Plan (BDCP) and includes approximately 2,300 acres of habitat restoration sufficient only to offset direct project construction impacts. The more ambitious restoration effort is now proposed as EcoRestore, a package of 30,000 acres of habitat restoration actions to support the long-term health of the delta native fish and wildlife species, and is a separate project from the WaterFix.

Staff Report

Background. The Commission's laws and policies, including the McAteer-Petris Act, Suisun Marsh Preservation Act, San Francisco Bay Plan and Suisun Marsh Protection Plan, call for the protection of Bay habitats and water quality, the conservation of the Suisun Marsh, including the more than 50,000 acres of managed wetlands, and for the maintenance of sufficient freshwater inflows from the Delta to achieve these objectives. These are the policies that guide the Commission in its review of the proposed WaterFix.

The previous proposal by the California Department of Water Resources (DWR) and US Bureau of Reclamation (USBR) to address California's Delta water system would have constructed a diversion structure connected to two tunnels with the same 9,000 cubic feet per second capacity as the new California Waterfix, but at a different location on the Sacramento River. That proposal also included approximately 50,000 acres of wetland and upland restoration and would have constituted a combined federal Habitat Conservation Plan (HCP) and state Natural Communities Conservation Plan (NCCP). The Commission heard several briefings on that proposal. DWR and USBR are now proposing a different alternative for the tunnels plan, the California WaterFix. It is described in the *Bay Delta Conservation Plan/California WaterFix Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement* (RDEIR/SDEIS). The WaterFix alternative (4A) would construct a new, 9,000 cfs point of diversion on the Sacramento River near Courtland and route the diverted water under the Delta in two newly constructed tunnels to the existing State Water Project (SWP) and federal Central Valley Project (CVP) pumping facilities in Tracy.

Some of the project revisions in preferred alternative 4A include:

- Provides only the habitat restoration needed, approximately 2,300 acres, to offset project impacts of construction of new intakes. Tidal restoration under the preferred alternative would be substantially less than under the BDCP and thus the impacts to terrestrial resources from tidal restoration would be considerably less. However, the benefits of the large amount of tidal restoration, as well as other large amounts of other natural community restoration under the BDCP, would not occur.
- There would also be approximately 13,300 acres of upland habitat protection, such as agricultural land, grassland, and non-tidal wetlands.
- The facility was realigned to minimize impacts for private prime farmland in the Delta.
- The new pumping facility was moved to South Delta to reduce North Delta impacts from the facility, power lines and roads.

- **California EcoRestore** is a broad range of habitat restoration actions to support the long-term health of the delta native fish and wildlife species that is entirely separate from the California WaterFix. The program calls for more than 30,000 acres of Delta habitat restoration and protection (the Suisun Marsh is part of the "Delta" as defined under Section 85058 of the Water Code):
    - 25,000 acres associated with existing mandates for habitat restoration, pursuant to federal biological opinions. These projects will be funded exclusively by the state and federal water contractors that benefit from the State Water Project and the Central Valley Project systems.
    - 5,000 acres of habitat enhancements. Proposition 1 grants to local governments, non-profit organizations, and other entities will support these habitat enhancements throughout the Delta. Funding will come primarily from the Delta Conservancy, the California Department of Fish and Wildlife, and the California Department of Water Resources.

    The breakdown of the habitat types are listed below:

    - The creation of 3,500 acres of managed wetlands for subsidence reversal and carbon sequestration
    - 9,000 acres of tidal and sub-tidal habitat restoration
    - 1,000 Acres of multi-benefit habitat projects to be funded under

      State Proposition 1
    - 17,500 acres of floodplain and shaded riverine aquatic habitat restoration

California EcoRestore acreage objectives are primarily the existing USFWS delta smelt and NMFS salmon Biological Opinions (BO) requirements for the ongoing operations of the SWP and CVP pumping facilities in the south Delta at Tracy. These BO habitat restoration objectives are currently attempting to be met under the DWR Fish Restoration Program Agreement. DWR, State and Federal Water Contractors Agency, and the Westlands Water District have purchased properties for tidal restoration that are listed in EcoRestore.

California EcoRestore is unassociated with any habitat restoration that may be required as part of the construction and operation of the California WaterFix, the new north Delta point of Diversion and water conveyance facility. While this statement is accurate for future impacts of the construction of a new North Delta point of diversion and tunnel construction, the new California EcoRestore is directly linked to existing obligations required in resource agency biological opinions for CVP and SWP facility operations.

Summary of BCDC's July 2014 Comment Letter on the BDCP. As directed by the Commission, staff provided comments to the state and federal project sponsors on the environmental review documents for the BDCP relating to potential impacts on the Commission's jurisdiction. In summary, the letter included the following Commission comments:

- **San Francisco Bay and Suisun Marsh Effects.** The EIR/S for the BDCP did not model the potential effects of the project the Marsh and the Bay, did not identify potential impacts on salinity, sediment delivery and Bay species as potentially significant, and did not evaluate strategies to avoid or mitigate these effects. The Commission requested that the analysis should establish clear standards and thresholds of significance, in consultation with scientific experts.
- **Water Quality and Salinity.** Current Delta fresh water outflows seem inadequate to support or recover endangered species. The BDCP should evaluate flow scenarios that provide greater freshwater flows to the Bay beyond the requirements of D1641[1] to recover declining fish populations. The Commission requested that a project alternative be developed that provides for greater Delta outflows that are likely necessary to meet the policy objectives in the *San Francisco Bay Plan* (Bay Plan) and the *Suisun Marsh Protection Plan* (Marsh Plan). Also, the Commission requested that the EIR/S evaluate potential impacts on non-listed Marsh and Bay species that rely on salinity levels characteristic of the Bay and the Marsh as required by current state standards.
- **Conservation Measures.** The Commission opined that most Conservation Measures are discussed at a programmatic level, rather than at a project level in the EIR/S and that some Conservation Measures involving habitat restoration or enhancement should be addressed at a project level of detail in the EIR/S so that they can be implemented early in the project cycle. Also, the Commission stated that additional conservation measures may be needed to address project effects on the Marsh and the Bay, particularly those related to sediment management.
- **Sediment**. The BDCP draft EIR/S discussed a potential reduction in suspended sediment transport to the Suisun Marsh and San Francisco Bay of approximately eight to ten percent. The EIR/S did not characterize this change as a significant impact. The Independent Science Board report to the Delta Stewardship Council raised this as a significant issue. USGS researchers have observed a steep reduction in Bay suspended sediment concentrations and characterize San Pablo Bay as erosional. With projected sea level rise, further reduction in Bay sediment inputs should be considered significant, given Bay wetland restoration targets, current subsided diked-baylands, and the overall

[1] D1641 refers to a State Water Board water rights Decision of 2005 that set water quality (salinity) standards for various monitoring stations in the Bay and Delta and amends certain water rights by assigning responsibilities to the persons or entities holding those rights to help meet the salinity objectives.

Bay-Delta sediment budget. Sediment settling in the new northern forebay, the relocation of flows from channels into underground pipes, new pumping regimes and proposed restoration conservation measures together and separately would alter sediment transport, delivery, and rate of deposition downstream. Reduced suspended sediment in the Bay would exacerbate nutrient loading problems caused from the sewage treatment plants discharging into the Bay.

- The Commission commented that construction of restoration projects are highly desirable in the Delta upstream of the Bay, but could likely create sediment sinks, thus further reducing sediment flows to the Marsh and San Francisco Bay, and therefore, requested that the cumulative impacts analysis should consider all of these changes to the Bay sediment regime, using science-based thresholds of significance.
- **Cumulative Effects.** The Commission also requested that the EIR/S discuss cumulative impacts of several projects including, but not limited to, dredging the Baldwin Ship Channel (between San Pablo Bay and the Port of Stockton) that may include constructing a sill in the Carquinez Strait; proposals to construct seasonal drought barriers or gates in the Delta; and several proposed water storage projects on existing dams and reservoirs. The issue of storage should be addressed within BDCP, particularly planned projects.

Bay Delta Conservation Plan/California WaterFix Partially Recirculated Draft Environmental Impact Report/Supplemental Draft Environmental Impact Statement. The environmental document for the WaterFix addresses some of the above comments and staff has excerpted below key sections of the RDEIR/SDEIS that respond to issues raised in the Commission's comment letter on the BDCP.

Water Quality. The water quality constituent sections that received the most updating were electrical conductivity, chloride, selenium, bromide, and Microcystis (which is a freshwater algae that can cause toxic blooms). Additionally, an assessment of constituent effects downstream of the Plan Area (i.e., in San Francisco Bay) was added. The assessment of water quality effects in San Francisco Bay states:

> "New screening and assessment of water quality constituent effects in San Francisco Bay was conducted in response to these concerns. These new assessments did not identify any new adverse or significant impacts or any substantial increase in the severity of previously identified impacts, except in the case of selenium. For alternatives 6-9, projected increases in selenium loading and concentrations in North San Francisco Bay were considered adverse (under NEPA) and significant and unavoidable (under CEQA), while alternatives 1–5 were considered not adverse and less than significant. This is consistent with findings for the assessment of selenium in the Delta, in which the same conclusions were reached for the same alternatives. The driving factor for the adverse impacts under alternatives 6–9 in both the

western Delta and the North Bay is modeled increases in selenium concentrations and loading, leading to potentially higher body burdens of selenium in certain species."

"Modeling of all alternatives assumed no operation of the Suisun Marsh Salinity Control Gates, but the project description for all alternatives now assumes continued operation of the Salinity Control Gates, consistent with assumptions included in the No Action Alternative. A modeling sensitivity analysis with the gates operational, consistent with the No Action Alternative resulted in substantially lower EC (*a measure of salinity)* levels in Suisun Marsh than indicated in the original modeling results, but EC levels were still somewhat higher there than EC levels under Existing Conditions and the No Action Alternative for several locations in the Marsh and for several months." Since the model analysis with the salinity control gates operational was not as rigorous as other hydrodynamic modeling, it is unclear whether these changes would reduce project salinity effects to levels that would be less than significant. "

The RDEIR/SDEIS states in the section: *Effects on San Francisco Bay Water Quality Resulting from Facilities Operations and Maintenance and Environmental Commitments*, that all of the preceding impacts (Impact WQ-1 through WQ-33) would be less-than-significant impact or have no adverse effect and therefore are of little concern as the water in the Bay is not used for drinking, municipal, or agricultural beneficial uses:

"Changes in boron, bromide, chloride, DOC, dissolved oxygen, pathogens, pesticides, trace metals, turbidity and TSS, and Microcystis in Delta outflow associated with implementation of Alternative 4A, relative to Existing Conditions and the No Action Alternative (ELT and LLT) are not anticipated to be of a frequency, magnitude and geographic extent that would adversely affect any beneficial uses or substantially degrade the quality of the of San Francisco Bay, as described for Alternative 4."

"Salinity throughout San Francisco Bay is largely a function of the tides, as well as to some extent the freshwater inflow from upstream. However, the changes in Delta outflow due to Alternative 4A, relative to Existing Conditions and the No Action Alternative (ELT and LLT), would be minor compared to tidal flows, and thus no substantial adverse effects on salinity, or fish and wildlife beneficial uses, downstream of the Delta are expected."

Project Operations and Water Quality. The Delta Stewardship Council staff made the following comments on this issue related to the new project alternatives that are relevant to the Commission's jurisdiction:

"The partially recirculated draft EIR/S describes several operational scenarios with criteria that bookend a range of outflows and other parameters. Judging the reasonableness of the range of operational criteria that will guide project operations

is difficult because, as discussed in Chapter 5 Water Supply and in Appendix 5A BDCP EIR/S Modeling, at this stage of the environmental assessment and permitting process there are still a large number of unknowns from a water supply standpoint."

"The partially recirculated draft EIR/S does not describe the process for identifying operational water quality impacts or the operational changes that would be implemented as corrective actions. A water quality monitoring and compliance program should be described in the final EIR/S and its mitigation monitoring and reporting plan. In addition, mitigation measures should propose effective responses if water quality objectives established for the project are violated."

"Nevertheless, we noted the statement during DWR's August 14, 2015 presentation to the ISB that the models presented in the recirculated draft EIR/S are comparative and not predictive. Therefore, their appropriate and intended use is to allow comparisons between the No Action Alternative and the other alternatives, rather than predicting the actual performance of the California WaterFix. If that is the case, then the partially recirculated draft EIR/S may have limited potential to draw firm conclusions regarding potential impacts on beneficial uses of water by in-Delta water users or aquatic organisms and habitats."

Sediment Transport. "As part of this RDEIR/SDEIS, additional analyses have been conducted to take into account sea level rise, restoration sediment demand, and the effects of the creation of new points of diversion in order to better understand the magnitude of potential changes in sediment loading into the San Francisco Bay and other areas downstream of the Plan Area (generally the Delta, Suisun Marsh, and Yolo Bypass). A range of sediment demand from existing wetlands and restoration activities was combined with the sea level rise assumptions to understand the rate at which restored areas would act as sediment sinks in order to maintain elevation as sea levels rise. Relevant literature was used to determine the overall contribution of sediments from the Delta to the Bay, and a range of volumes of potential supplemental materials from both the diversion sediment collection process at the north Delta diversions and the RTM was developed based on current engineering estimates. This RDEIR/SDEIS includes an analysis of changes in sediment loading to the Bay for all of the alternatives, with specificity to operations-related effects and restoration-related effects.

In summary, these impacts were deemed to be less than significant/not adverse because there would be less than a 10% change in sediment loading and because restoration actions could serve to increase turbidity in some areas.

In addition to the sediment analysis, further analysis was undertaken to assess the consequences, if any, of the relatively minor changes in operations proposed across alternatives compared with the consequences already described in the Draft EIR/EIS. This new analysis evaluated the potential changes in water quality, salinity, flows, temperatures, and

other factors potentially affecting fish habitat and behavior downstream of the Plan Area. The analyses indicted that these characteristics would be essentially unchanged, especially given the highly dynamic tidal environment of the Bay and its connection to the Delta."

Issues to Consider Regarding the California WaterFix:

- The project impacts to the Suisun Marsh from habitat conversion and project operations is likely much smaller than the BDCP Preferred Alternative 4 that the Commission commented on in 2014. However, given that predictive models were not used to assess salinity effects with the salinity control gates operational, and uncertainty remains about project operations, it is premature to definitively assume that the project impacts are less than significant.
- The operation of the existing DWR Salinity Control Gates in the Suisun Marsh has been added as part of the project, which helps meet current Suisun salinity standards, but which still may be insufficient to recover endangered species.
- The salinity impacts of future EcoRestore tidal restoration on Suisun Marsh salinity are not discussed in the RDEIR/SEIS under cumulative impacts. As described above, the former analysis of the tunnels along with large scale tidal restoration resulted in salnity impacts. Should the RDEIR/SEIS include an analysis of the cumulative impacts of EcoRestore and the California WaterFix on the Suisun Marsh and San Francisco Bay?
- What is the basis for determining that a decrease of sediment loading from the Delta to the Bay of less than ten percent is not significant, particularly given the past decreases in sediment loading to the Bay and the importance of sediment in a rising Bay?

On October 30, 2015, staff sent a letter to DWR and USBR briefly outlining the issues raised above, since the comment period on the environmental documents were due that day. Staff will provide additional comments to the project sponsors on the project and its characterization in the environmental documents following the Commission's briefing on November 5, 2015.